

Amendments to the Specification:

*Please amend the paragraph beginning on page 2, at line 3, as shown below:*

Existing magnetrons and crossed-field amplifiers use an azimuthally-symmetric, axial magnetic field, shown in Figures 1a and 1b (exterior dashed line in Figure 1b). In a standard microwave oven magnetron such as the magnetron, generally indicated at 70, of Figure 7, permanent magnets 72 generate about 1 kGauss on the face, resulting in about 1.7 kGauss on-axis, at the midpoint between the two magnets 72. The magnetron 70 also typically includes a microwave output post 73, a magnetic metal yoke 74, cooling fins 75, a vacuum envelope 76 which contains cavities, a metal box containing chokes 77 and electrical cathode/filament connections 78. Such standard noisy magnetrons generate a copious amount of microwave noise near the carrier and more widely-spaced sidebands, as shown in one of the data plots of Figure 5.

*Please amend the paragraph beginning on page 9, at line 12, as shown below:*

FIGURE 8a is a side schematic view of a microwave magnetron with an upper permanent magnet magnetized with high (H) and low (L) regions of magnetic field to generate an azimuthally-varying axial magnetic field and optimized for an 8-vane magnetron; ~~and~~

*Please amend the paragraph beginning on page 9, at line 16, as shown below:*

FIGURE 8b is a top view of the magnetron of Figure 8a; and

FIGURE 9 is a schematic block diagram of a crossed-field amplifier (i.e. CFA) in accordance with the present invention.

*Please amend the paragraph beginning on page 9, at line 18, as shown below:*

In general, low-noise, crossed-field devices such as a microwave magnetron and microwave oven utilizing same are disclosed. In a first embodiment of the invention, at least one permanent magnet is added to the existing magnetron magnets to cause the axial magnetic field to vary azimuthally (exterior dashed line in Figure 2b). This embodiment of the invention is depicted in Figures 2a and 2b, in which four permanent magnets 10 have been added to one of the prior art magnets 12 (either upper or lower). Each magnet 10 has a strength of 3.0 to 4 kGauss on their face. The added permanent magnets 10 are located with their magnetic poles opposing (or adding to) the axial direction of the field of the standard, azimuthally-symmetric magnetron magnets 12. It is not crucial that the perturbing magnets 10 be exactly the same size or magnetic field, nor that they be symmetrically located around the periphery of one of the standard magnets 12. Figure 2a also shows a cathode, an anode, and an electrical circuit for generating a radial electric field. The perturbing magnets 10 perturb the axial magnetic field of the magnetron or crossed-field amplifier (i.e. Figure 9).